cabinet in accordance with the above specified DIN and ASTM standards, the pieces exhibited a corrosion protection of 504 hrs. before first attack according to DIN 50961.

IN THE CLAIMS

Please cancel claim 1, without prejudice, and substitute therefor the following claims.

--29. A coating solution, comprising about 5 to about 100 g Chromium III-ligand(s) complex/l solution, wherein at least one ligand exhibits more rapid ligand-replacement kinetics than F of a Chromium III-Fluoro complex.

30. The solution of claim 29, wherein the ligand(s) is (are) selected from the group consisting of carboxylic acids, acetylacetone, urea, urea derivatives, their complexes with inorganic anions and hydrogen peroxide and mixtures thereof.

31. The solution of claim 30, wherein the carboxylic acids are dicarboxylic, tricarboxylic, or hydroxycarboxylic acids.

32. The solution of claim 31, wherein the carboxylic acids are selected from the group consisting of oxalic, malonic, succinic, glutaric, adipic, pimelic, suberic, azelaic, sebacic, maleic, phtalic, terephtalic, tartaric, citric, malic, and ascorbic acid.

33. The solution of claim 29, further comprising an additional component selected from the group consisting of sealers, dewatering fluids, 1- to 6-valent metal compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, Ianthanides, Zr, Sc, Ti, V, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; anions, polymers, corrosion inhibitors, silicilic acids, organic acids, amines, plastic dispersions, dyes, coloring pigments, chromogenic agents, amino acids, siccatives, dispersing agents and mixtures thereof.

34. The solution of claim 33, wherein

the anions are selected from the group consisting of halides, sulfates, nitrates, phosphates, diphosphates, linear and cyclic oligophosphates, linear and cyclic polyphosphates, hydrogen phosphates and silicates;

the silicic acids are selected from the group consisting of colloidal and disperse silicic acids;

the organic acids are selected from the group consisting of monocarboxylic acids;

the pigment is carbon black;

the chromogenic agents are metallic chromogenic agents;

the amino acid is glycine; and

the siccatives are selected from the group consisting of cobalt siccatives.

35. The solution of claim 29, comprising dyes or coloring pigments.

36. The solution of claim 29, wherein the Chromium III-ligand complex is present in an amount of about 5 to about 80 g/l solution.

37. The solution of claim 36, wherein the Chromium III-ligand complex is present in an amount of up to about 60 g/l solution.

38. The solution of claim 36, wherein the Chromium III-ligand complex is present in an amount of about 10 to about 30 g/l solution.

39. The solution of claim 29, having a pH of about 1.5 to about 3.

40. The solution of claim 29, comprising about 20 g Chromium III-ligand complex/l solution, and a pH of about 2 to about 2.5.

41. The solution of claim 29, at a temperature of about 20 to about 100°C42.

The solution of claim 29, which is substantially free of Chromium VI ions.

43. A coherent light conversion layer coated over a Zinc or a Zinc alloy surface, comprising Chromium III ions but being substantially free from Chromium VI ions; which layer

is clear, transparent, colorless and has a greenish, multicolored iridiscence;

is hard, has good adherence, and is resistant to wiping;

even in the absence of silicate, cerium, aluminum and/or borate affords a corrosion protection of about 100 to about 1000 h, as measured by a salt spray test in accordance with DIN 50021 SS or ASTM B117-73 until the occurrence of a first attack in accordance with DIN 50961 Chapter 10;

has a Chromium-rich zone of about 15 nm comprising greater than about 20% Chromium ion/Zinc+Chromium ions;

has a thickness of about 100 to about 1,000 nm, and a Chromium ion content greater than about 5%;

has an across-thickness content of up to about 1% Chromium ion/Zinc+Chromium ions; and

has a Chromium Index greater than about 10, defined as the % average Chromium content in the layer minus 1%, multiplied by the layer thickness.

44. The conversion layer of claim 43, further comprising silicates, cerium, aluminum, borate, 1- to 6-valent metal compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, Ianthanides, Zr, Sc, Ti, V, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; anions, polymers, corrosion inhibitors, silicic acids, organic acids, amines, plastic dispersions, dyes, coloring pigments, chromogenic agents, amino acids, siccatives, dispersing agents or mixtures thereof.

45. The conversion layer of claim 44, wherein

the anions are halides, sulfates, nitrates, phosphates, diphosphates, linear and cyclic oligophosphates, linear and cyclic polyphosphates, hydrogen phosphates or silicates;

the silicic acids are colloidal or dispersed silicic acids;

the organic acids are monocarboxylic acids;

the pigment is carbon black;

the chromogenic agents are metallic chromogenic agents;

the amino acids are glycine; and

the siccatives are cobalt siccatives.

46. The conversion layer of claim 43, comprising dyes or coloring pigments.

47. A method of producing a Chromium VI-free conversion layer which affords a corrosion protection at least equal to that of a conventional Chromium VI-containing yellow chromation layer, comprising contacting a metallic surface comprising Zinc or a Zinc alloy with the solution of claim 29, under conditions effective to form a coating which affords the surface a corrosion protection at least equal to that of a conventional Chromium VI-containing yellow chromation coating; wherein the Chromium III-ligand(s) complex exhibits more rapid ligand-replacement kinetics than the fluoride of a Chromium III-Fluoro complex.